

Practice: 512 - Forage and Biomass Planting

Scenario: #1 - Native Perennial Grasses (1 species)

Scenario Description:

Establish or reseed adapted perennial native grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 30

Scenario Cost: \$11,926.26

Scenario Cost/Unit: \$397.54

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	30	\$188.40
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	30	\$593.10
Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.68	30	\$170.40
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.31	30	\$309.30
Materials						
Herbicide, Glyphosate	334	A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$15.83	30	\$474.90
One Species, Warm Season, Native Perennial Grass	2322	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$65.98	30	\$1,979.40
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	60	\$7,196.40
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.28	1500	\$420.00
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.39	1500	\$585.00
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36

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Scenario: #2 - Introduced Cool Season Grass Mix

Scenario Description:

Establish or reseed adapted perennial introduced cool season grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced cool season grasses for pasture, hayland, and wildlife openings. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 30

Scenario Cost: \$12,280.26

Scenario Cost/Unit: \$409.34

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.31	30	\$309.30
Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.68	30	\$170.40
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	30	\$188.40
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	30	\$593.10
Materials						
Four Species Mix, Cool Season, Introduced Perennial (2 grasses, 2 legumes)	2317	Cool season grass and legume mix. Includes material and shipping only.	Acre	\$46.18	30	\$1,385.40
Herbicide, Glyphosate	334	A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$15.83	30	\$474.90
Nitrogen (N), Ammonium Nitrate	69	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.79	1200	\$948.00
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.39	1500	\$585.00
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	60	\$7,196.40
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.28	1500	\$420.00

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Scenario: #3 - Native Perennial Warm Season Grasses Mix

Scenario Description:

Establish or reseed a mix of species of adapted native, perennial warm season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading. Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Existing stand of perennial grasses or monoculture or no grasses present. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable NWSG species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 30

Scenario Cost: \$16,113.66

Scenario Cost/Unit: \$537.12

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
	341				30	
Equipment/Installation						
Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.68	30	\$170.40
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	30	\$188.40
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	30	\$593.10
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.31	30	\$309.30
Materials						
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.39	1500	\$585.00
Three plus Species Mix, Warm Season, Native Perennial	2327	Native, warm season perennial grass. Includes material and shipping only.	Acre	\$205.56	30	\$6,166.80
Herbicide, Glyphosate	334	A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$15.83	30	\$474.90
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	60	\$7,196.40
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.28	1500	\$420.00

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Scenario: #4 - Sprigging

Scenario Description:

Sprigging new grasses with sprigging application for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, sprigs, equipment and labor for seed bed prep, tillage, sprigging, and spreading.

Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 30

Scenario Cost: \$14,884.86

Scenario Cost/Unit: \$496.16

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Ground sprigging	1101	Includes costs for equipment, power unit and labor.	Acre	\$93.15	30	\$2,794.50
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	30	\$188.40
Chemical, ground application	948	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.68	30	\$170.40
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.31	30	\$309.30
Materials						
Potassium, K2O	74	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.28	1500	\$420.00
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	60	\$7,196.40
One Species, Warm Season, Introduced Perennial Grass (seed or sprigs)	2323	Native, warm season perennial grass seed or sprig. Includes material and shipping only.	Acre	\$59.62	30	\$1,788.60
Nitrogen (N), Ammonium Nitrate	69	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.79	1200	\$948.00
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36
Phosphorus, P2O5	73	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.39	1500	\$585.00
Herbicide, Glyphosate	334	A broad-spectrum, non-selective systemic herbicide. Refer to WIN-PST for product names and active ingredients. Includes materials and shipping only.	Acre	\$15.83	30	\$474.90

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Scenario: #5 - Organic Introduced Perennial Cool Season Grasses with legume

Scenario Description:

This practice applies to organically managed pasture or hayland. Establish or reseed three species of adapted perennial introduced cool season grasses and legume to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced cool season grasses for pasture, hayland, and wildlife openings. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading. Producer follows all National Organic Program (NOP) rules and regulations. Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poor or nonexistent stand of grass species. Resource concerns may include undesirable plant productivity and health, inadequate feed and forage for livestock, soil erosion and soil quality.

After Situation:

NOP approved species, materials, and methods are utilized to establish pasture or hayland, to improve forage quality and quantity, and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$3,797.46

Scenario Cost/Unit: \$379.75

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	10	\$62.80
Tillage, Light	945	Includes light disking (tandem) or field cultivator. Includes equipment, power unit and labor costs.	Acre	\$10.31	10	\$103.10
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	10	\$197.70
Materials						
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	20	\$2,398.80
Nitrogen, Organic	266	ORGANIC Nitrogen	Pound	\$0.27	400	\$108.00
Certified Organic, Three Species Mix, Cool Season, Perennial Grasses and Legumes	2340	Certified organic cool season perennial grass and legume mix. Includes material and shipping only.	Acre	\$64.77	10	\$647.70
Potassium, Organic	268	ORGANIC Potassium	Pound	\$0.27	500	\$135.00
Phosphorus, Organic	267	ORGANIC Phosphorus	Pound	\$0.27	500	\$135.00

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Scenario: #6 - Untreated Conventional Seed, WSG, 1 species

Scenario Description:

This practice applies to organically managed pasture and hayland. Establish or reseed adapted perennial native grasses (1 species) to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading. Producer follows all National Organic Program (NOP) rules and regulations.

Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

NOP approved species, materials, and methods are utilized to establish pasture or hayland, to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$3,598.46

Scenario Cost/Unit: \$359.85

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	10	\$197.70
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	10	\$62.80
Materials						
Untreated Conventional Seed, One Species, Warm Season, Native Perennial Grass	2341	Untreated conventional native, warm season perennial grass. May contain seed that are not available as certified organic. Includes material and shipping only.	Acre	\$65.98	10	\$659.80
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	20	\$2,398.80
Phosphorus, Organic	267	ORGANIC Phosphorus	Pound	\$0.27	500	\$135.00
Potassium, Organic	268	ORGANIC Potassium	Pound	\$0.27	500	\$135.00
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36

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Scenario: #7 - Untreated Conventional Seed, WSG Mix

Scenario Description:

This practice applies to organically managed pasture and hayland. Establish or reseed adapted perennial native grasses (3 species) to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading. Producer follows all National Organic Program (NOP) rules and regulations.

Associated Practices: Fence (382), Forage Harvest Management (511), and Watering Facility (614).

Before Situation:

Poorly managed/degraded pasture land or cropland being converted to pasture and/or hay.

After Situation:

NOP approved species, materials, and methods are utilized to establish pasture or hayland, to improve forage quality and quantity and reduce soil erosion on cropland, hayland, pasture, and/or biomass production.

Scenario Feature Measure: Acres of Forage and Biomass Planting

Scenario Unit: Acre

Scenario Typical Size: 10

Scenario Cost: \$5,570.26

Scenario Cost/Unit: \$557.03

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation						
Seeding Operation, No Till/Grass Drill	960	No Till drill or grass drill for seeding. Includes equipment, power unit and labor costs.	Acre	\$19.77	10	\$197.70
Fertilizer, ground application, dry bulk	950	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$6.28	10	\$62.80
Materials						
Lime, ENM	75	Fertilizer: Limestone Spread on field.	Ton	\$119.94	20	\$2,398.80
Phosphorus, Organic	267	ORGANIC Phosphorus	Pound	\$0.27	500	\$135.00
Potassium, Organic	268	ORGANIC Potassium	Pound	\$0.27	500	\$135.00
Test, Soil Test, Standard	299	Includes materials, shipping, labor, and equipment costs.	Each	\$9.36	1	\$9.36
Untreated Conventional Seed, Three plus Species Mix, Warm Season Perennial Grass	2344	Untreated conventional wWarm season perennial grass mix. May contain seed that are not available as certified organic. Includes material and shipping only.	Acre	\$263.16	10	\$2,631.60